**Hester -7th Grade Science**

**Unit Genetics**

**Objectives CAS Exam**

**TEKS Covered 7.14 Organisms and environments.** The student knows that reproduction is a characteristic of living organisms and that the instructions for traits are governed in the genetic material. The student is expected to: 7.14 A,B,C

\*The above TEKS will not copy and paste from the provided outline

**College Board Standards Covered LSM-PE.5.1.1** Describe the problem or scientific question that various scientists investigated and the scientists’ contributions to the development of the model of inheritance toward modern genetics. *[****BOUNDARY:*** *It is suggested that students study Mendel, Watson and Crick, and Franklin; students can, but do not have to, study Sutton and Bateson.]*

**LSM-PE.5.1.2** Observe patterns (similar to those observed by Mendel), using data from parent–generation crosses, in traits of parents and offspring.

**LSM-PE.5.1.3** Give examples of various scientists whose ideas built upon and/or revised Mendel’s model of inheritance.

**LSM-PE.5.2.1** Evaluate consistency and accuracy of representations illustrating the major components of the Watson–Crick double-helix model of DNA.

**LSM-PE.5.2.2** Construct a representation of DNA replication, showing how the helical DNA molecule unzips and how nucleotide bases pair with the DNA template to form a duplicate of the DNA molecule.

**LSM-PE.5.2.3** Construct a representation that shows what happens to the chromosomes of the parent organisms during both the process of fertilization and the first stages of cell division of a zygote.

**LSM-PE.5.2.4** Explain and justify, using representations, why the DNA of the daughter cells of asexually reproducing organisms are identical to the DNA of parent cells. Explanation and justification are based on knowledge of the mechanisms (e.g., asexual reproduction, DNA replication) of DNA transmission from generation to generation in asexually reproducing organisms.

A) defineheredityasthepassageofgeneticinstructionsfromonegenerationtothe

next generation.

B) comparetheresultsofuniformordiverseoffspringfromsexualreproductionor

asexual reproduction. ***Supporting Standard-Category 4***

C) recognize that inherited traits of individuals are governed in the genetic material

found in the genes within chromosomes in the nucleus. ***Supporting Standard-***

***Category 4*LSM-PE.5.2.5** Explain and justify why the DNA of the offspring of sexually reproducing organisms are not identical to the DNA of either parent organism. Explanation and justification are based on knowledge of the mechanisms (e.g., fertilization, cell division) of DNA transfer between generations in sexually reproducing organisms.

**LSM-PE.5.4.1** Describe three ways (e.g., insertion, deletion or substitution) that changes in DNA (mutations) can occur during replication.

**LSM-PE.5.4.2** Predict and justify, based on the type of cell, whether a particular error in copying DNA during replication will be transmitted to the offspring.

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**Blooms (Remember, understand, apply, analyze)**

**Materials/Resources Needed Pencil**

**Anticipatory Set I will encourage students to do their best and be a smart test taker**

**Objective/Purpose We will use the CAS as a gauge to see how effective we covered the genetics unit**

**Prior Knowledge The TEKS of the genetics unit**

**Model None needed**

**Check for Understanding The CAs will let us know how well the students understand the material**

**Guided Practice none**

**Closure none**

**Independent Practice none**

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| **Bloom’s Taxonomy**  New Bloom Triangle Old Bloom Triangle  **New Version Old Version** | |
| **Creating**: can the student create new product or point of view? | assemble, construct, create, design, develop, formulate, write |
| **Evaluating**: can the student justify a stand or decision? | appraise, argue, defend, judge, select, support, value, evaluate, justify |
| **Analyzing**: can the student distinguish between the different parts? | compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test |
| **Applying**: can the student use the information in a new way? | choose, demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write |
| **Understanding:** can the student explain ideas or concepts? | classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, paraphrase |
| **Remembering:** can the student recall or remember the information? | define, duplicate, list, memorize, recall, repeat, reproduce, state |